ID:88081743

Box 15
Accordion 5
Item 13-57

From A Look Back To The New Look

by Sie Ling Chiang

There has been much talk in the Federal agencies, especially in the Bureau of Land Management (BLM), Forest Service (FS) and Environmental Protection Agency (EPA) about ecosystem management. It sounds like we are heading toward a new direction and we are going to use an entirely new approach to accomplish it.

People in the field levels however, are skeptical of this "new effort". They are asking what is wrong with the current agency mission and the multiple use management approach to that mission. They question whether ecosystem management is just another name for multiple use management; or, if we are actually embarking on a new mission. The minerals staff in particular are concerned about whether there is going to be a role for mineral development in the ecosystem management approach. This paper is intended to examine the evolution of management concepts, the BLM mission, and its management approach and provide the foundation and context from which these questions can be answered.

A Look Back

Historically, development of the natural resources in this country, on both public and private lands, was strongly encouraged with little consideration for environmental consequences. In the early twentieth century concerns over adverse impacts on human health developed and gradually expanded into concern for the environment. State and Federal laws and new agencies, such as the Environmental Protection Agency (EPA) were established in 1960's and 1970's to address the increasing concerns over the environment.

The National Environmental Policy Act of 1969 was a landmark legislation which devised a new approach to the protection of the environment in the conduct of human activities, particularly those for which the Federal government is responsible. Basically, the law requires that planning processes account for environmental concerns. It also requires that management decisions on programs and projects be made with an awareness of their environmental impacts and be provided with appropriate mitigating measures to avoid or minimize the impacts. The mechanism used is the preparation of environment assessments (EA) or Environmental Impact Statements (EIS).

For convenience, let's call this approach "environmental management" which provided a badly needed check against the prevailing economic development mentality. The objective was a balanced approach to the economy and the environment, particularly the human environment. Simply stated, the rationale for environmental protection was: bad environment degrades the quality of human life and threatens the long term survival of the

human being.

In order to protect the human environment, EPA set air and water quality standards to regulate human activities where pollutants were being generated and used the anti-degradation policy to protect pristine areas in accordance with various pieces of environmental legislation. Solid waste disposal and uses of pesticide and herbicide became regulated under still different pieces of legislation so that our physical environment including air, water, and soils as well as flora and fauna are protected. The EPA regulations primarily focus on human health concerns. However, additional laws designed to protect animals and plants, such as the Endangered Species Act, Migratory Birds Act and Marine Mammal Protection Act have been implemented. In addition, wetland protection was added to the Clean Water Act. The regulatory agencies responsible for these laws implement them through specific regulatory programs. These programs establish standards and requirements that serve as a yardstick to determine whether or not a program is successful or a project should proceed. In other words, they provide the check points for balancing environmental protection and economic development. However, they are not managed in an integrated fashion and have not adequately addressed human health or the environment in keeping with current knowledge and concern.

It should be noted that this "environmental management" approach was not intended to be the piece-meal, fragmented, and short-sighted approach which has developed. The EIS guidelines specifically require responsible Federal agencies to address and document cumulative impacts (effects), the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

The Council on Environmental Quality (CEQ) regulation at 1508.8 defines effects/impacts by stating "effects include ecological (such as the effects on natural resources and on the components, structure and functioning of affected ecosystem), aesthetic, historic, cultural , economic, social or health, whether direct, indirect or cumulative." The spirit of NEPA intended "environmental management" to cover ecosystems. Unfortunately, ecologic concerns were targeted for major Federal actions only, and have not been well addressed in the preparation of EIS's to date.

BLM Mission

A lot can be learned about the evolution of BLM's missions and its management philosophy, by studying the history of BLM (Opportunity and Challenge, the story of BLM). Unfettered development was the rule in the last century. In the 1960's, BLM underwent a fundamental change from special user groups controlled commodity management to an American public interest oriented multiple-use philosophy via the 1963 Classification and

Multiple Use (CMU) Act. The Act provided a definition of multiple use as the "combination of surface and subsurface resources of the public lands that will best meet the present and future needs of the American people." The Bureau developed a planning system (Unit Resource Analysis) as a means of integrating all projects and land use into a management system. Thus, the concept of multiple-use management started with the CMU Act, although the Act provided only temporary authority for BLM.

Thirty years after its formation (1946), the BLM was finally granted a mission in its organic Act, the Federal Land Policy and Management Act of 1976 (FLPMA). It formally recognized what the Bureau had been doing on an interim basis for many years: managing the public land for multiple use and sustained yield. The current mission of the Bureau according to Bureau Manual 1211, is as follows:

> "The BLM is responsible for the stewardship of our Public Lands. It is committed to manage, protect and improve these lands in a manner to serve the need of the American people for all times. Management is based upon the principles of multiple use and sustained yield of our Nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation; rangelands; timber; minerals; watershed; fish and wildlife; wilderness; air; and scenic, scientific and cultural values."

The United States Code at 43 USC 1702(c) of FLPMA embodies the concept of long-term sustainability of the resources in the definitions of "multiple use" and "sustained yield." The resultant "multiple use management" practiced by BLM is indeed a form of "environmental management."

What Went Wrong?

With over two decades of effort in practicing "environmental management" in the nation, and nearly two decades of "multiple-use management" on BLM lands, the nation as a whole has progressed toward environmental protection. Nevertheless, while the nation has improved the water quality of many streams and the air quality of many industrialized areas, ecosystems often have not been well protected. Thus, the conflicts between the health of natural systems and the economic well being of certain regions has reached a point of a loss/loss situation. The protection of endangered species, such as the spotted owl habitat of the Northwest, is a classic example of this paradox.

In addition, we find that timbering and grazing practices on public lands have degraded the resources to an extent that they will not sustain long term productivity. Further, destruction of riparian habitat and loss of wetlands have been occurring at an alarming rate. Thousands of abandoned mines on public lands

remain unreclaimed and a potential source of environmental detriment.

Globally, loss of rainforest, desertification and greenhouse effects have become worldwide concerns. Obviously, we have failed to protect the ecosystem as well as we could have. The human being will eventually destroy our life support system and the future needs of American people and the world population can not be met unless some significant changes are made in the management of our resources. In other words, there is definitely a need to modify both BLM mission and management approach so that the ecosystems can be protected.

A Modified Mission and Approach

So, what is new in the BLM mission and the management approach? Where are we going from here? Secretary Babbitt recently made the following unambiguous statements:

> "There is an enduring and important place on public lands for resource production - water, agriculture, mining, timber and grazing."
> "My job is to find and strike that balance for a healthy ecosystem that includes allowing people in rural areas to look forward to making a living and allowing future generations to do so too."

This is indeed our New Mission Statement. To the extent that a "heathy ecosystem" differs from "multiple-use and sustained yield", BLM's mission has to be modified.

There is a new environmental concern that is the driving force for change. It is a new land ethic and a new value system that recognizes the value of the ecosystem in managing the natural resources on public lands. It is a value system that is gaining world-wide recognition. This recognition is the reason for modifying the BLM mission to address the ecosystem health issue and making the shift to the "ecosystem management" approach. In this context, we have not abandoned or replaced multiple-use management. Rather, we have determined to strengthen the existing multiple-use management by placing an emphasis on the need to maintain the healthy ecosystem.

When managing the various resources for the enjoyment of the American people, one of our management objectives has been to develop and utilize the natural resources in a manner that is environmentally sound. Using this ecosystem management approach, we hope to achieve it in an ecologically sound manner. Thus, the difference between "multiple use management" and "ecosystem management" is just that -- a new emphasis on the health of the ecosystem. Two elements that can be used to describe the health of ecosystems are biodiversity which is a new management

consideration and sustainability another management consideration in which we have had limited success in the past.

Ecosystem management means managing our lands and resources according to principles that promote healthy ecosystems. This could also be termed ecosystem-based management. In doing this one needs to understand what are the key components to a healthy ecosystem and to understand how these components react to both natural and manmade forces. A key factor to understand is that healthy ecosystems are stable yet dynamic. Ecosystems have been part of nature since the existence of the animal and plant kingdoms and their interactions with the physical environment. Ecosystems undergo continuous changes due to changes in their environment. At times these changes are sudden but more often these changes are gradual. Even when an ecosystem is stable at a macro scale, it is constantly changing at the micro level.

For successful ecosystem management, the nature of ecosystems must be understood. This includes the fact that humanity is part of that ecosystem and can affect the ecosystem as well as be influenced by the ecosystem. Therefore the evolution of ecosystems in time and the variation of ecosystem in space, must be studied so as to understand the complex interactions within an ecosystem. From this can be derived some general principles for managing resources that will promote healthy ecosystems. The past has shown that the dynamic nature of the environment has not been understood. By modeling ecosystems and understanding the interactions involved we can derive the guidance to assist us in the conservation and restoration of present day ecosystems as well as to predict the nature of future ecosystems and the impacts of human activities.

BLM's mission and its management approach are being modified. It is an evolutionary process and the degree of change is moderate. As a result of practicing true ecosystem management, the BLM can be expected to fulfill that mission as envisioned by the Secretary.

The New Look

The BLM has recently adopted nine land management principles as a first step toward the ecosystem management commitment. The first principle states the goal of ecosystem management to be achieved within the limits of ecological sustainability and the remaining eight describe what needs to be done to reach that goal.

The BLM must overcome a number of obstacles before it is able to implement ecosystem management. These include development of technical know how for: delineating ecosystems; determining the desired future condition of ecosystems; developing workable definitions of biodiversity and sustainability of the ecosystem; effectively analyzing/assessing the impacts on ecosystems; effectively monitoring and evaluating the performance of the

ecosystems; determining critical data/information needs; modifying planning and project management methodologies; as well as changing the organization and budget process to facilitate ecosystem management.

Local and National politics with which BLM has to contend are also obstacles. Political inertia may prove to be the strongest obstacle of all. An equally difficult task is pulling the public, Federal, State and private land owners together in this endeavor. Unless we can achieve the close cooperation among all, the landscape oriented ecosystem management cannot be accomplished.

During the last decades of resource management practice, we have gained significant knowledge and techniques for managing resources for their sustainability. But much more needs to be learned for the effective management of the ecosystems. As all these building blocks are successfully assembled, the New BLM Look will emerge.

ECOSYSTEM MANAGEMENT AS IT RELATES TO MINERAL PROGRAMS

Ecosystem management relates to mineral programs in a somewhat different fashion then it relates to renewable resource programs such as timber and grazing. In the case of the renewable resource programs the effect of ecosystem management is to preserve and restore the natural ecosystems and their biodiversity, while providing long term sustainable commodity production. In the case of the minerals programs, ecosystem management would require use of various methods and procedures to minimize the negative impacts on ecosystems and maximize their restoration.

The effect of ecosystem management is that an additional factor comprising the total ecosystem must be considered when making multiple use management decisions for the mineral programs. In the mineral programs the effect of ecosystem management is likely to reduce accessibility to and to restrict the utility of some natural ecosystems areas, and to increase mitigation and restoration efforts in other areas where access is permitted. Moreover, these decisions will be made while considering a broader area of potential impact including small, medium and large landscapes.

The magnitude of the ecosystem management effect on minerals programs is not clear at this time. The Bureau of Land Management is currently developing guidance and methodology for the ecosystem management. The actual effects of ecosystem management on minerals programs should be clearer as the management procedures and methodology are established and understood.

Some examples will help to illustrate the uncertainties involved. One source of uncertainty is that the degree of its effects on minerals programs will depend upon the definition of "ecosystem health." Another effect of ecosystem management will be that some additional areas may be found not suitable for mineral development in the planning process while some currently restricted areas may become suitable because of region-wide consideration. Furthermore, ecosystem management's tendency to reduce commodity production in favor of ecosystem preservation may be somewhat offset in the minerals programs where sustainable socioeconomic benefits from mineral development are more fully considered in ecosystem management.

g:\policy\martha\typing\ecosys12